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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/565,362	02/16/2006	Takafumi Yamaji	JFE-05-1864	5611

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IP GROUP OF DLA PIPER LLP (US)
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EXAMINER

AUSTIN, AARON

ART UNIT	PAPER NUMBER
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1794

NOTIFICATION DATE	DELIVERY MODE
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10/19/2009

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

pto.phil@dlapiper.com

Office Action Summary	Application No. 10/565,362	Applicant(s) YAMAJI ET AL.	
	Examiner AARON S. AUSTIN	Art Unit 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 July 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 23-47 is/are pending in the application.
- 4a) Of the above claim(s) 39-43 and 45-47 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 23-38 and 44 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>1/20/06</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

Applicant's election without traverse of Group I, claims 23-38 and 44, in the reply filed on 7/13/09 is acknowledged. Claims 39-43 and 45-47 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim.

Claim Objections

Claim 44 is objected to because of the following informalities: the claim fails to differentiate between elements by line indentation. Where a claim sets forth a plurality of elements or steps, each element or step of the claim should be separated by a line indentation. 37 CFR 1.75(i), MPEP 608.01(m). Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 23-24, 26-30, 33-35 are rejected under 35 U.S.C. 102(b) as being anticipated by Yoshimi et al. (US 6,562,474).

Yoshimi et al. teach a coated steel sheet with improved corrosion resistance. The steel sheet may be a zinc alloy or aluminum alloy plated steel. An oxide coating containing metal such as Mg is applied to the steel sheet and thus may be considered the claimed film. *In the alternative*, a second coating is applied to the steel sheet which may be considered the equivalent of the claimed film as it contains phosphoric acid and at least one metal such as Mg.

Regarding claim 24, the coatings are chromium-free.

Regarding claim 26, the phosphoric acid in the second coating is present in an amount of 6 to 3600 mg/m².

Regarding claims 27, 33, and 35, the thickness of the oxide coating is 0.005 to 3 microns and the thickness of the second coating is 0.1 to 5 microns.

Regarding claims 28 and 30, the coatings may include an organic resin. The resin may be one of the same polymers taught by Applicant such as a styrene, methacrylic acid, or methacrylic acid ester, olefin, or combination thereof (e.g. a styrene-acrylic acid copolymer).

Regarding claims 29 and 34, as like materials are used in a like manner as compared to the claims, the amount of adhesion is expected to be as claimed.

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Claim Rejections - 35 USC § 102 and 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 25 and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshimi et al. (US 6,562,474) in view of Sako et al. (JP2001181860).

Yoshimi et al. teach a coated steel sheet with improved corrosion resistance as described above.

Yoshimi et al. do not teach the inclusion of vanadium in either the oxide coating or the second coating.

Sako et al. teach a metal surface treating agent comprising a resin, a vanadium compound, and a metal used to form a coating with increased corrosion resistance on a metallic surface. Therefore, as Sako et al. clearly teach vanadium in combination with a resin compound and a metallic compound provides the advantage of increased corrosion resistance when applied to a metallic surface, it would have been obvious to one of ordinary skill in the art at the time of the claimed invention to include vanadium in the second layer of Yoshimi et al. which likewise includes a resin and a metallic compound.

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Claims 31-32 and 36-37 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Yoshimi et al. (US 6,562,474).

Yoshimi et al. teach a coated steel sheet with improved corrosion resistance as described above.

Further, Yoshimi et al. teach the coatings may include an organic resin. The resin may be one of the same polymers taught by Applicant such as a styrene, methacrylic acid, or methacrylic acid ester, olefin, or combination thereof (e.g. a styrene-acrylic acid copolymer). They do not specifically teach the combination of resins claimed.

However, the recitation of a styrene-acrylic acid copolymer broadly includes the copolymer claimed. *In the alternative*, Yoshimi et al. provides a finite list of resins as well as recognition that they may be combined to form copolymers. As such, it would be within the ordinary skill of one in the art to select resins from the finite list to form a copolymer overlapping the claimed combination of resins.

Further, with respect to claims 32 and 37, it would have been obvious to one having ordinary skill in the art at the time of the invention to adjust the amounts of each resin in forming a copolymer for the intended application, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). Motivation to do so is provided by the desire to provide corrosion resistance to the steel sheet as well as the

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teachings of Yoshimi et al. which suggest a copolymer including the polymers claimed would result in a suitable protective layer for steel.

Claims 31-32 and 36-37 are rejected under 35 U.S.C. 103(a) as obvious over Yoshimi et al. (US 6,562,474) in view of Yamaji et al. (JP2004183053A).

Yoshimi et al. teach a coated steel sheet with improved corrosion resistance as described above.

Further, Yoshimi et al. teach the coatings may include an organic resin. The resin may be one of the same polymers taught by Applicant such as a styrene, methacrylic acid, or methacrylic acid ester, olefin, or combination thereof (e.g. a styrene-acrylic acid copolymer). They do not specifically teach the combination of resins claimed.

Yamaji et al. teach a surface-treated steel sheet comprising a metal compounds in combination with an organic resin formed of a copolymer of having the composition claimed. Therefore, as Yamaji et al. clearly teach a copolymer equivalent to the copolymer claimed provides the advantage of corrosion resistance, it would have been obvious to one of ordinary skill in the art at the time of the claimed invention to use the copolymer of Yamaji et al. as the polymer of Yoshimi et al.

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Claim 38 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshimi et al. (US 6,562,474) in view of Lee et al. (US 4,330,598).

Yoshimi et al. teach a coated steel sheet with improved corrosion resistance as described above.

Yoshimi et al. teach the steel sheet may be a zinc alloy or aluminum alloy plated steel. They do not teach the composition of these alloys.

Lee et al. teach steel coated with a zinc-aluminum alloy providing increased corrosion and oxidation resistance. The alloy is comprised of 30 to 75 weight percent zinc with the balance essentially aluminum. Therefore, as Lee et al. clearly teach a zinc-aluminum alloy comprised of 30-75 weight percent zinc and a balance of aluminum provides the advantage of increased corrosion and oxidation resistance, it would have been obvious to one of ordinary skill in the art at the time of the claimed invention to form the coating of Lee et al. as the zinc or aluminum alloy coating the steel of Yoshimi et al. to provide the steel with increased corrosion and oxidation resistance.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to AARON S. AUSTIN whose telephone number is (571)272-8935. The examiner can normally be reached on Monday-Friday: 7:30 AM to 4:00 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jennifer McNeil can be reached on (571) 272-1540. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Aaron S Austin/
Examiner, Art Unit 1794